PLYMOUTH COUNTY
CONTRIBUTORY RETIREMENT SYSTEM

Actuarial Valuation Report

January 1, 2007

TABLE OF CONTENTS

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Report Summary:

Highlights	**January 1, 2006**	**January 1, 2007**
Contributions		
Funding Schedule FY 2008	$38,854,868	$38,854,868
Funding Schedule FY 2009	40,249,030	41,286,383
Funded Ratios		
GAS No. 25	60.8%	61.4%
Participants		
Actives	7,058	7,088
Retirees and Beneficiaries	2,736	2,816
Vested	1	0
Inactives	1,717	1,830
Disabled	330	333
Total	11,842	12,067
Payroll		
Payroll of Active Members	$226,262,731	$244,574,136
Average Payroll	32,058	34,505
Normal Cost		
Employer	8,552,189	7,091,712
Employee	18,137,253	19,949,037
Administrative Expenses	960,000	1,050,000
Total	27,649,442	28,090,749
Actuarial Accrued Liabilities		
Actives	488,070,681	515,221,028
Retirees, Beneficiaries, Disabilities and Inactives	423,795,218	472,619,390
Total	918,851,707	987,840,418
Actuarial Value of Assets	558,533,863	606,629,089
Unfunded Actuarial Accrued Liabilities	$360,317,844	$381,211,329

Introduction

This report presents the findings of an actuarial valuation as of January 1, 2007, of Plymouth County Contributory Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2007.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the Plymouth County Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2007.

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

During the last year, total unfunded actuarial accrued liability increased by 5.80% to $381,211,329. The increase is the result of net unfavorable actuarial experience during the preceding year, partially offset by a change in actuarial assumptions. The sources of the (gain)/loss are as follows:

Investment	(3,083,245)
Salary Increases	15,750,417
New Participants	3,623,102
Active - Retirements	11,314,353
Active - Terminations	3,834,072
Active - Mortality	23,667
Active - Disabilities	(977,533)
Inactive - Mortality and data adjustments	(2,417,050)
Other	7,832,470
Total (gain)/loss	35,900,253

The assumed increase in salary for years after 2011 was lowered from 5.0% to 4.5%. The result was a decrease in the accrued liability of $21,363,770 and a decrease in the normal cost of $1,430,264.

Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	January 1, 2006	January 1, 2007
Superannuation	$17,835,522	$18,036,940
Termination	3,220,765	3,337,881
Death	1,509,873	1,456,020
Disability	4,123,282	4,209,908
Administrative Expenses	960,000	1,050,000
Total Normal Cost	27,649,442	28,090,749
% of Pay	12.2%	11.5%
Employee Contributions	18,137,253	19,949,037
% of Pay	8.0%	8.2%
Employer Normal Cost	$9,512,189	$8,141,712
% of Pay	4.2%	3.3%

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Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits based on the past service of the actives and inactives. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	January 1, 2006	January 1, 2007
Actives		
Superannuations	$423,003,409	$446,977,057
Termination	14,720,962	15,128,744
Death	15,895,703	15,546,646
Disability	34,450,607	37,568,581
Retirees and Inactives		
Retirees and Beneficiaries	347,805,743	381,936,321
Vested	35,133	0
Terminated (Refund)	6,985,808	7,441,080
Disabled	75,954,342	83,241,989
Total	$918,851,707	$987,840,418

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Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	January 1, 2006	January 1, 2007
Actives		
Superannuation	$568,946,173	$588,789,105
Termination	27,090,956	27,875,665
Death	27,227,711	26,164,035
Disability	71,174,983	74,565,350
Retirees and Inactives		
Retirees and Beneficiaries	347,805,743	381,936,321
Vested	35,133	0
Terminated (Refund)	6,985,808	7,441,080
Disabled	75,954,342	83,241,989
Total	$1,125,220,849	$1,190,013,545

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Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	January 1, 2006	January 1, 2007
Cash equivalents	$12,144,150	$7,021,673
Short term investments	5,094,858	6,875,547
Fixed income securities	132,514,671	150,694,215
Equities	352,713,827	398,752,035
International	0	0
Real Estate	56,842,382	71,432,990
Venture Capital	0	0
Other	7,970,376	11,222,891
Accounts receivable	2,906,834	3,001,894
Accounts payable	(2,814,173)	(2,713,517)
Accrued income	242,276	627,068
Total Market Value	$567,615,201	$646,914,796
Total Actuarial Value	$558,533,863	$606,629,089

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Actuarial Value of Assets

The actuarial value of assets is determined by projecting the market value of assets as of the beginning of the prior plan year with the assumed rate of return during that year (8.5%) and accounting for deposits and disbursements with interest at the assumed rate of return. An adjustment is then applied to recognize the difference between the actual investment return and expected return over a five year period. This preliminary actuarial value is not allowed to differ from the market value of assets by more than 10%. The calculation of the actuarial value of assets as of January 1, 2007 is presented in Table V.

Table V

		January 1, 2007
(1)	Market value at January 1, 2006	$567,615,201
(2)	2006 Contributions	$57,730,004
(3)	2006 Payments	($60,082,974)
(4)	Net interest adjustment at 8.5% on (1), (2), and (3) to December 31, 2006	$48,147,291
(5)	Expected market value on January 1, 2007 (1) + (2) + (3) + (4)	$613,409,522
(6)	Actual market value on January 1, 2007	$646,914,796
(7)	2006 (Gain) / Loss	($33,505,275)
(8)	80% of 2006 (Gain) / Loss	($26,804,220)
(9)	2005 (Gain) / Loss	$3,723,148
(10)	60% of 2005 (Gain) / Loss	$2,233,889
(11)	2004 (Gain) / Loss	($6,190,924)
(12)	40% of 2004 (Gain) / Loss	($2,476,370)
(13)	2003 (Gain) / Loss	($66,195,031)
(14)	20% of 2003 (Gain) / Loss	($13,239,006)
(15)	Actuarial value on January 1, 2007, (6) + (8) + (10) + (12) + (14) but not less than 90% nor greater than 110% of (6)	$606,629,089
(16)	Ratio of actuarial value to market value	93.77%
(17)	Actuarial Value Return for 2005	4.26%
(18)	Actuarial Value Return for 2006	9.05%
(19)	Market Value Return for 2005	7.79%
(20)	Market Value Return for 2006	14.42%

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Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	January 1, 2006	January 1, 2007
Actuarial Accrued Liability	$918,851,707	$987,840,418
Actuarial Assets	558,533,863	606,629,089
Unfunded Actuarial Accrued Liability	$360,317,844	$381,211,329
Funded Status	60.8%	61.4%

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Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2028, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the unfunded actuarial accrued liability by June 30, 2025
  $ 374,373,828 over 18 years with 4.3% increasing payments
- Level amortization of the 1992 Early Retirement Incentive by June 30, 2008
  $ 77,863 over 1 years
- Level amortization of the 2002 Early Retirement Incentive June 30, 2019
  $ 4,432,572 over 12 years
- Level amortization of the 2003 Early Retirement Incentive June 30, 2020
  $ 2,327,065 over 13 years
- Interest adjustment for payments deposited semiannually.

The pension appropriation is shown in Table VII.

Table VII

	January 1, 2006	January 1, 2007
Normal cost	$9,660,559	$8,141,712
Amortization payment of the accrued liability	25,748,043	28,490,337
Amortization payment of 1992 ERI liability	77,863	77,863
Amortization payment of 2002 ERI liability	556,228	556,228
Amortization payment of 2003 ERI liability	278,868	278,868
Total cost	$36,321,561	$37,545,008
% of Pay	16.1%	15.4%
Fiscal 2008 cost	$38,854,868	$38,854,868
Fiscal 2009 cost	$40,249,030	$41,286,383

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2028 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be made at the beginning of the year.

The employer total cost is expected to increase during the next 18 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total cost represents 15.9% of payroll, decreasing to 13.4% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 1.0% thereafter. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

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Appropriation Forecast

Fiscal Year Ending	Payroll*	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2008	$244,574,136	$19,949,037	$8,653,618	$30,201,250	$38,854,868	15.9	61.4
2009	$255,579,972	$21,146,201	$8,724,745	$32,561,638	$41,286,383	16.2	63.3
2010	$267,081,071	$22,410,714	$8,784,750	$33,923,622	$42,708,372	16.0	65.2
2011	$279,099,719	$23,746,211	$8,832,487	$35,344,171	$44,176,658	15.8	67.1
2012	$291,659,206	$25,156,521	$8,866,732	$36,825,803	$45,692,535	15.7	69.0
2013	$304,783,871	$26,645,674	$8,886,173	$38,371,146	$47,257,319	15.5	70.9
2014	$318,499,145	$28,217,908	$8,889,409	$39,982,938	$48,872,347	15.3	72.8
2015	$332,831,606	$29,877,685	$8,874,941	$41,664,038	$50,538,979	15.2	74.8
2016	$347,809,029	$31,629,702	$8,841,170	$43,417,424	$52,258,594	15.0	76.8
2017	$363,460,435	$33,478,897	$8,786,388	$45,246,207	$54,032,595	14.9	78.9
2018	$379,816,155	$35,430,470	$8,708,773	$47,153,627	$55,862,400	14.7	81.0
2019	$396,907,882	$37,489,890	$8,606,379	$49,143,066	$57,749,445	14.5	83.2
2020	$414,768,736	$39,662,911	$8,477,135	$50,626,850	$59,103,985	14.2	85.4
2021	$433,433,329	$41,955,587	$8,318,831	$52,494,658	$60,813,489	14.0	87.7
2022	$452,937,829	$44,374,286	$8,129,113	$54,751,928	$62,881,041	13.9	90.0
2023	$473,320,031	$46,925,708	$7,905,475	$57,106,261	$65,011,736	13.7	92.4
2024	$494,619,433	$49,616,900	$7,645,248	$59,561,830	$67,207,078	13.6	94.9
2025	$516,877,307	$52,455,275	$7,345,593	$62,122,989	$69,468,582	13.4	97.4
2026	$540,136,786	$55,448,629	$7,003,486	$0	$7,003,486	1.3	100.0
2027	$564,442,942	$58,605,163	$6,615,715	$0	$6,615,715	1.2	100.0
2028	$589,842,874	$61,933,502	$6,178,863	$0	$6,178,863	1.0	100.0
2029	$616,385,803	$64,720,509	$6,456,912	$0	$6,456,912	1.0	100.0
2030	$644,123,164	$67,632,932	$6,747,473	$0	$6,747,473	1.0	100.0
2031	$673,108,707	$70,676,414	$7,051,109	$0	$7,051,109	1.0	100.0
2032	$703,398,599	$73,856,853	$7,368,409	$0	$7,368,409	1.0	100.0
2033	$735,051,536	$77,180,411	$7,699,988	$0	$7,699,988	1.0	100.0
2034	$768,128,855	$80,653,530	$8,046,487	$0	$8,046,487	1.0	100.0
2035	$802,694,653	$84,282,939	$8,408,579	$0	$8,408,579	1.0	100.0
2036	$838,815,912	$88,075,671	$8,786,965	$0	$8,786,965	1.0	100.0
2037	$876,562,629	$92,039,076	$9,182,378	$0	$9,182,378	1.0	100.0
2038	$916,007,947	$96,180,834	$9,595,585	$0	$9,595,585	1.0	100.0
2039	$957,228,304	$100,508,972	$10,027,387	$0	$10,027,387	1.0	100.0

* Calendar basis

** Beginning of Fiscal Year

GASB Statements No. 25 and No. 27

Effective for periods beginning after June 15, 1997, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 25 and 27. These statements, which replace GASB Statement No. 5, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

Footnote disclosures required by GASB Statement No. 25 and 27 include a description of the plan, a summary of significant accounting policies, and information about contributions, legally required reserves, and investment concentrations. As a result of the oversight of the Public Employees Retirement Administration Commission (PERAC) and the conversion of unpaid contributions to pension related debt, the Net Pension Obligation (NPO) as required by Statement No. 27 will effectively always be equal to $0. The required disclosure information is shown in Table VIII.

Table VIII

		January 1, 2006	January 1, 2007
(1)	Actuarial Accrued Liability	$918,851,707	$987,840,418
(2)	Actuarial Value of Assets	558,533,863	606,629,089
(3)	Unfunded Actuarial Accrued Liability	360,317,844	381,211,329
(4)	Funded Ratio (2)/(1)	60.8%	61.4%
(5)	Covered Payroll	$226,262,731	$244,574,136
(6)	UAAL as a percentage of payroll: (3)/(5)	159.2%	155.9%
(7)	Annual Required Contribution (ARC)	$34,085,524	$38,854,868
(8)	Net Pension Obligation	$0	$0

PERAC Annual Statement
APPENDIX PAGE 3
ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Buck Consultants as of January 1, 2007.

The normal cost for employees on that date was:	$19,949,037	8.2% of pay
The normal cost for the employer was:	7,091,712	2.9% of pay

The actuarial liability for active members was:	$515,221,028
The actuarial liability for retired and inactive members was:	472,619,390
Total actuarial accrued liability:	987,840,418
System assets as of that date:	606,629,089
Unfunded actuarial accrued liability:	$381,211,329

The ratio of system's assets to total actuarial liability was 61.4%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.5%
Rate of Salary Increase:	4.5%

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a percent of Covered Payroll (b-a)/c
01/01/07	$606,629,089	$987,840,418	$381,211,329	61.4%	$244,574,136	155.9%
01/01/06	558,533,863	918,851,707	360,317,844	60.8%	226,262,731	159.2%
01/01/04	520,104,805	802,158,453	282,053,648	64.8%	208,312,002	135.4%
01/01/02	466,325,660	733,198,204	266,872,544	63.6%	205,039,686	130.2%
01/01/00	450,210,619	611,204,058	160,993,439	73.7%	178,010,731	90.4%
01/01/98	316,253,566	492,303,777	176,050,211	64.2%	148,264,981	118.7%

Attach Copy of Current Approved Funding Schedule

EXHIBITS

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Age/Service Distribution with Salary as of January 1, 2007

Attained Age	Average Salary <5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
20-24	84	1	0	0	0	0	0	0	0	85
	21,144	52,169	0	0	0	0	0	0	0	21,509
25-29	484	42	0	0	0	0	0	0	0	526
	22,217	38,714	0	0	0	0	0	0	0	23,534
30-34	190	144	28	1	0	0	0	0	0	363
	32,235	47,638	44,939	27,495	0	0	0	0	0	39,312
35-39	263	205	163	35	1	0	0	0	0	667
	26,015	41,603	50,020	47,897	71,821	0	0	0	0	37,889
40-44	394	242	151	128	43	2	0	0	0	960
	20,627	34,870	47,932	57,359	58,323	72,783	0	0	0	35,207
45-49	437	350	191	131	89	35	0	0	0	1,233
	20,859	26,044	34,703	47,954	58,731	61,668	0	0	0	31,246
50-54	295	324	224	160	106	88	45	4	0	1,246
	22,853	24,107	30,793	39,111	51,479	62,414	67,502	68,463	0	33,682
55-59	176	194	197	170	114	61	71	23	0	1,006
	24,935	28,610	31,044	33,738	43,362	55,932	58,998	59,501	0	35,490
60-64	101	115	104	116	94	51	34	25	9	649
	21,364	30,577	31,506	34,545	34,219	39,541	58,105	64,696	62,282	34,429
65-69	34	53	37	41	31	27	20	9	2	254
	19,177	25,614	30,210	31,674	35,057	36,301	50,521	39,120	39,207	31,235
70+	17	19	10	16	12	12	9	4	0	99
	13,225	16,221	23,605	19,619	32,555	22,303	37,759	49,562	0	23,024
Total Employees	2,475	1,689	1,105	798	490	276	179	65	11	7,088
Average Salary	22,991	31,476	37,033	41,279	46,736	52,437	58,951	58,617	58,087	33,339

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Retiree Distribution as of January 1, 2007

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	1	0	1	8204	0	8,204
40-44	6	3	9	96338	12951	109288
45-49	8	5	13	149,759	33,843	183,602
50-54	19	18	37	694,260	191,242	885,502
55-59	125	91	216	4,151,371	915,236	5,066,607
60-64	220	213	433	6,616,704	2,526,030	9,142,735
65-69	231	275	506	5,777,680	3,658,546	9,436,226
70-74	213	271	484	4,033,478	3,170,594	7,204,071
75-79	175	234	409	2,697,445	2,247,081	4,944,527
80-84	154	226	380	1,985,892	1,843,739	3,829,632
85-89	75	125	200	767,313	870,412	1,637,724
90-94	41	51	92	342,920	397,443	740,363
95-99	23	13	36	142,419	86,967	229,385
Total	1,291	1,525	2,816	27,463,783	15,954,084	43,417,866
Average (Age/Payment)	71.8	73.3	72.6	21,273	10,462	15,418
Frequency Percent	45.8	54.2	100	63.2	36.8	100

Disabled Retiree Distribution as of January 1, 2007

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	3	0	3	91,319	0	91,319
40-44	13	1	14	364,371	32,969	397,340
45-49	14	6	20	403,319	154,093	557,412
50-54	32	4	36	952,398	42,864	995,262
55-59	54	8	62	1,481,260	111,867	1,593,128
60-64	56	8	64	1,498,074	186,056	1,684,129
65-69	50	4	54	1,223,097	63,487	1,286,584
70-74	35	1	36	868,325	4,703	873,028
75-79	24	1	25	488,877	3,372	492,248
80-84	10	1	11	167,563	25,228	192,791
85-89	8	0	8	148,137	0	148,137
90-94	0	0	0	0	0	0
95-99	0	0	0	0	0	0
Total	299	34	333	7,686,740	624,639	8,311,379
Average (Age/Payment)	63.3	58.7	62.8	25,708	18,372	24,959
Frequency Percent	89.8	10.2	100.0	92.5	7.5	100.0

P:\Actrl\Plymouth\Val07\[Plymouth07_Final.xls]Cash Flow

EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2007	$58,932,498	$19,949,037	$38,854,868	$51,547,800	$51,419,207
2008	62,408,171	21,146,201	41,286,383	54,710,049	54,734,462
2009	66,028,996	22,410,714	42,708,372	59,291,280	58,381,370
2010	69,827,260	23,746,211	44,176,658	64,179,527	62,275,136
2011	73,870,277	25,156,521	45,692,535	69,393,207	66,371,987
2012	78,170,985	26,645,674	47,257,319	74,949,293	70,681,301
2013	82,708,574	28,217,908	48,872,347	80,866,971	75,248,653
2014	87,043,861	29,877,685	50,538,979	87,186,736	80,559,539
2015	91,529,246	31,629,702	52,258,594	93,957,406	86,316,457
2016	96,312,627	33,478,897	54,032,595	101,211,041	92,409,906
2017	101,258,987	35,430,470	55,862,400	108,982,187	99,016,070
2018	106,060,756	37,489,890	57,749,445	117,327,570	106,506,149
2019	110,985,483	39,662,911	59,103,985	126,299,229	114,080,642
2020	115,855,356	41,955,587	60,813,489	135,930,560	122,844,280
2021	120,514,184	44,374,286	62,881,041	146,329,569	133,070,713
2022	125,191,618	46,925,708	65,011,736	157,605,276	144,351,102
2023	129,604,339	49,616,900	67,207,078	169,859,495	157,079,135
2024	133,928,885	52,455,275	69,468,582	183,208,384	171,203,356
2025	137,807,929	55,448,629	7,003,486	196,625,687	121,269,873
2026	141,547,580	58,605,163	6,615,715	206,924,945	130,598,243
2027	144,926,431	61,933,502	6,178,863	218,040,622	141,226,556
2028	147,927,186	64,720,509	6,456,912	230,038,992	153,289,227
2029	150,406,528	67,632,932	6,747,473	243,089,755	167,063,632
2030	152,256,773	70,676,414	7,051,109	257,343,131	182,813,881
2031	153,421,200	73,856,853	7,368,409	272,969,681	200,773,743
2032	154,006,716	77,180,411	7,699,988	290,153,034	221,026,717
2033	154,066,673	80,653,530	8,046,487	309,086,160	243,719,504
2034	153,371,444	84,282,939	8,408,579	329,986,288	269,306,362
2035	152,025,596	88,075,671	8,786,965	353,095,364	297,932,404
2036	157,128,127	92,039,076	9,182,378	378,376,476	322,469,804

amounts in thousands

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2007, and does not take into account any subsequent changes.

1. Administration

Each of the 107 contributory retirement systems for public employees of the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. Participation

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporary, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

(i) Group 1: Most general employees in State and local government

(ii) Group 2: Certain specified hazardous duty positions

(iii) Group 3: State police officers and inspectors

(iv) Group 4: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

3. Salary

Salary is defined as gross regular compensation. Salary does not include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	2.0% of Salary in excess of $30,000

5. Average Salary

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.)

6. Creditable Service

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. <u>Service Retirement</u>

a. <u>Eligibility</u>:

For an employee to be eligible for service retirement (also referred to as superannuation), one of the following conditions must be met:

(i) completion of 20 years of service

(ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member

(iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table:

Age at Retirement	Percentage of Average Salary Group 1	Group 2	Group 4
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

8. <u>Deferred Vested Retirement</u>

a. <u>Eligibility</u>:

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. <u>Benefit Amount</u>:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. <u>Refund of Contributions</u>:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

9. <u>Accidental Disability</u>

a. <u>Eligibility</u>:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. <u>Benefit Amount</u>:

The accidental disability amount is 72% of annual salary plus $648.48 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55. If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55, he will receive not less than the superannuation allowance to which he is entitled.

11. Survivor Benefits

a. Occupational Death:

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. Non-Occupational Death:

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of $250 per month to the surviving spouse, plus $120 for the first child, plus $90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of $250 per month plus $120 for the first child and $90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is $12,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

(i) Option A – Life annuity

(ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member

(iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below.

1. Member Data

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. Valuation Date

January 1, 2007.

3. Actuarial Cost Method

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 8.0% per annum.

5. Salary Scale

The assumed annual rates for salary increases including longevity are illustrated by the following rates:

Year	Rate
2007	3.50%
2008	4.00%
2009	4.00%
2010	4.50%
2011	4.50%
2012+	4.50%

6. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and $12,000 per year.

7. Value of Investments

Assets held by the fund are valued at market value as reported by the Public Employees' Retirement Administration Commission (PERAC). The actuarial value is based on a 5 year smoothing of realized and unrealized investment earnings greater than or less than the expected return. The result must be within 10% of market value.

8. Annual Rate of Withdrawal Prior to Retirement

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

Service	General Employees	Police and Fire Employees	Jail Employees
0	0.1500	0.0150	0.4500
10	0.0540	0.0150	0.1620
20	0.0200	0.0000	0.0600
30	0.0000	0.0000	0.0000

9. Annual Rate of Mortality

It is assumed that both pre-retirement and post retirement mortality are represented by the RP-2000 Mortality Table for males and females. Mortality for disabled members is represented by the RP-2000 Mortality Table set forward two years for all disabled members.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages:

Age	Male General Employees	Female General Employees	Male and Female Police and Fire Employees
50	0.0100	0.0150	0.02000
51	0.0100	0.0150	0.02000
52	0.0100	0.0200	0.02000
53	0.0100	0.0250	0.05000
54	0.0200	0.0250	0.07500
55	0.0200	0.0550	0.15000
56	0.0250	0.0650	0.10000
57	0.0250	0.0650	0.10000
58	0.0500	0.0650	0.10000
59	0.0650	0.0650	0.15000
60	0.1200	0.0500	0.20000
61	0.2000	0.1300	0.20000
62	0.3000	0.1500	0.25000
63	0.2500	0.1250	0.25000
64	0.2200	0.1800	0.30000
65	0.4000	0.1500	1.00000
66	0.2500	0.2000	1.00000
67	0.2500	0.2000	1.00000
68	0.3000	0.2500	1.00000
69	0.3000	0.2000	1.00000
70	1.0000	1.0000	1.00000

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

Attained Age	**General Employees**	**Police and Fire Employees**
20	0.0001	0.0010
30	0.0003	0.0030
40	0.0010	0.0030
50	0.0019	0.0125

In addition, it is assumed for the general employees that 45% of all disabilities are ordinary (55% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

12. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2007 is $1,050,000 and is anticipated to increase at 4.5% per year.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. **Normal Cost**

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. **Unfunded Actuarial Accrued Liability**

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. **Valuation Method**

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. **Vested Liability**

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the Plymouth County Retirement System contributing as of January 1, 2007, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

Buck Consultants, LLC

Daniel W. Sherman, ASA, MAAA
Enrolled Actuary No. 05-4086

September 2007

BREAKOUTS